

ABSTRACT OF THE DISCLOSURE

A method for verifying the accuracy of a CNC machine or a CMM. The methodology segregates the measured error into an assignable cause portion and a common cause (or random error) portion. The methodology may be employed to affect the calibration of the machine tool to factor out the mean value of the assignable cause portion. Inherent in this methodology is the ability to diagnose mechanical problems with the CNC machine or CMM that affects the repeatability and accuracy of such machine tools; identify degradation in the performance of such machine tools that is indicative of mechanical failure; and improve the accuracy and repeatability of such machine tools in certain situations.